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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/889,241	07/13/2001	Hiroki Koyama	2282-0142P	8879

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EXAMINER

GRIFFIN, WALTER DEAN

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 09/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/889,241

Applicant(s)

KOYAMA ET AL.

Examiner

Walter D. Griffin

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[Handwritten signature]

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 23, 2004 has been entered.

Claim Rejections - 35 USC §102/103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

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the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 22, 23, 25-28, and 30-33 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Cash (US 4,430,203).

The Cash reference discloses a hydrotreating unit that comprises a first and second catalyst layer and a holding member, referred to as a sieve tray, positioned between the first and second catalyst layers. The unit also comprises a hydrogen feed source and a hydrogen introduction part that introduces hydrogen below the holding member and above the second catalyst layer. A separation space for separating vapor from liquid is located above the holding member. This separation space contains a vapor outlet. Since hydrogen is added between the layers, the pressure can be adjusted in the space between the layers. The process of using the hydrotreating unit comprises contacting hydrogen with a feed such as oils derived from tar sand and shale and passing it through the first catalyst bed. The treated feed is then passed to the separation space wherein hydrogen is added below the holding member. Gases are withdrawn through the vapor outlet. The withdrawn gases include hydrogen sulfide and ammonia. The feed then passes to a second catalyst bed. See column 2, line 11 through column 4, line 31.

The reference of Cash (4,430,203) succeeds at teaching a process with steps and apparatus corresponding to applicants' claimed initial feed/hydrogen contact, passing a feed

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through a first catalyst bed, contacting the feed from the first catalyst bed with hydrogen, and contacting the feed with a second catalyst bed. The reference's sieve trays are considered to correspond to the claimed holding member limitations and are considered to meet the claimed packing material limitation because sieves are formed with packing material. In addition, space (25) is considered to function as a separation space because a gaseous product is separated from a liquid product exiting the first reaction zone. Cash's disclosure of heavy feeds is considered to encompass applicants' specifically claimed boiling point limitations. Since added hydrogen between stages flows downward with the feed through catalyst bed 2, it is considered to be co-current.

Also, applicants' intended use limitations do not further distinguish applicants' claimed apparatus over the applied reference. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate from a prior art apparatus if the prior art apparatus teaches all of the structural limitations. Ex Parte Masham, 2 USPQ 2d 1647 (Bd. Pat. App. & Int. 1987).

It is noted that the reference does not refer to the hydrogen contacting in between catalyst beds as "stripping" or "counter-current" contact. However, such hydrogen contacting with the processed feed between steps in conjunction with a vapor withdrawal is considered to inherently function as stripping because the same steps responsible for accomplishing stripping are performed (i.e., Contacting hydrogen with down coming hydrocarbon products to remove hydrogen sulfide and ammonia).

Applicants' process and apparatus are anticipated by the reference of Cash (4,430,203) because it discloses essentially the same process steps and apparatus components.

Also, applicants' stripping and hydrogen counter-current contacting would obviously be accomplished upon operating the process of Cash (4,430,203).

Claim Rejections - 35 USC § 103

Claims 24 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cash (4,430,203) as applied to claims 22 and 28 above, and further in view of Graziani et al. (US 4,695,364).

As discussed above, the holding tray disclosed by the reference of Cash (4,430,203) does not appear to have a hole.

The reference of Graziani et al. (4,695,364) is cited to illustrate the conventionality of a collection tray with a discharge hole. See column 10, lines 9-13.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a collection tray with a discharge hole in the process of Cash (4,430,203) because the reference of Graziani et al. (4,695,364) illustrates that collection trays with discharge holes are conventional. Applicants have not shown anything unexpected by replacing the tray of Cash with another conventionally known tray.

Response to Arguments

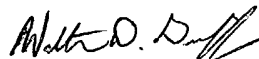
The arguments concerning unexpected results in the response of July 23, 2004 and in the Ishida declaration are not persuasive because such evidence is insufficient to overcome a rejection under 35 USC 102(b). Additionally, the examiner maintains that stripping, to some extent, is accomplished by the use of the apparatus of Cash.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter D. Griffin whose telephone number is (571) 272-1447. The examiner can normally be reached on Monday-Friday 6:30 to 4:00 with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Walter D. Griffin
Primary Examiner
Art Unit 1764

WG
September 9, 2004